



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Confirmation No. 7242
Minoru FUJIMORI et al. : Docket No. 2001_0206A
Serial No. 09/816,391 : Group Art Unit 1635
Filed March 26, 2001 : Examiner Brian A. Whiteman

ANAEROBIC BACTERIUM AS A DRUG FOR
CANCER GENE THERAPY

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Minoru FUJIMORI, Shun'ichiro TANIGUCHI, Jun AMANO, Kazuyuki YAZAWA, Yasunobu KANO, Toshiyuki NAKAMURA and Takayuki SASAKI, hereby declare as follows:

1. That we are co-inventors of the subject matter described and claimed in the above-identified application.
2. The number of the inventors of this application and the number of the authors of Yazawa et al. do not match. That is due to the fact that Toshiyuki NAKAMURA and Takayuki SASAKI, who are not listed as the authors of Yazawa et al., cooperatively contribute to the inventions disclosed in Example 3, constructing "antitumor agent containing recombinant *B. longum* highly expressing Cytosine Deaminase (CD) gene".
3. One of the characteristics of the invention of the present application is to treat tumors by delivering a bacterium from *Bifidobacterium* to tumor cells or tissues. The bacterium has already been transfected with a recombinant DNA expressing proteins having antitumor properties and is used as a vector. Since tumor cells or tissues are hypoxic, and a bacterium

selected from *Bifidobacterium* is anaerobic, the bacterium proliferates in tumor cells or tissues and as a result of that, the number of antitumor proteins are expressed effectively and efficiently, which would lead to treatment of tumors.

4. However, it is not necessary that the gene to be inserted into a bacterium express proteins having antitumor activity by itself. The gene can be replaced with a gene that can convert a precursor of an antitumor enzyme into an activated enzyme. Cytosine Deaminase (CD) is an enzyme that converts a precursor of an antitumor substance into the antitumor substance, and Example 3 of the present specification discloses a method using CD. Note that the example using CD is not disclosed in Yazawa et al., that is, the experimentation was not yet carried out. Toshiyuki NAKAMURA and Takayuki SASAKI, who are the inventors but not the authors, came into the project after the publication of Yazawa et al. (March 26, 2000), and contributed to the example using CD as an enzyme expressed by the gene inserted into a bacterium.

5. In summary, the inventors of the present application and the authors of Yazawa et al. differs because Toshiyuki NAKAMURA and Takayuki SASAKI made contributions to the invention using CD, which is disclosed in Example 3 of the present specification. Therefore, the authors of Yazawa et al. and the inventors contributing to the part of the invention disclosed in Yazawa et al. are exactly the same. Therefore the so-called one year grace period applies to the present application regarding Yazawa et al., and the citations relating to 35 USC 102 and 103 are irrelevant to the present application because of the one year grace period.

6. To assist the Examiner, the following is a list of the inventors who contributed to the subject matter of the elected claims under examination:

(a). Claims 3, 4, 8-13, 16, 19-21, 24, 28, 30, 32: Minoru FUJIMORI, Shun'ichiro TANIGUCHI, Jun AMANO, Kazuyuki YAZAWA, Yasunobu KANO, Toshiyuki NAKAMURA and Takayuki SASAKI;

(b). Claims 5, 14, 16, 19-21, 24, 29: Minoru FUJIMORI, Shun'ichiro TANIGUCHI, Jun AMANO, Kazuyuki YAZAWA, Yasunobu KANO;

We further declare that all statements made herein of our own knowledge are true and all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

Date: 12/18/03

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Date: 12/18/03

Shun'ichiro Taniguchi

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